

अशीति प्रणाम

AŚĪTI PRAṆĀM



A memorabilia published in honour of
Prof Biswa Nath Datta
on his 80 th birthday
01 July 2021
by
Vidya Academy of Science & Technology



अशीति प्रणाम

AŚĪTI PRANĀM



Pranams to

Prof Biswa Nath Datta

Distinguished Research Professor
Northern Illinois University, USA

on his 80th birthday

by his

family, friends, colleagues, students,
admirers and well wishers
from the world over

01 JULY 2021

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अशीति प्रणाम AŚĪTI PRANĀM

A compendium of memories
compiled as part of an

**INTERNATIONAL ONLINE FELICITATION MEETING
IN HONOUR OF PROF BISWA NATH DATTA**

organised by



V-THINC

Vidya Academy of Science & Technology
Thrissur – 680501
Kerala, INDIA

with financial support from



All India Council for Technical Education
under
the Scheme for Promoting Interests, Creativity and Ethics
among Students (SPICES) scheme

and conducted on

01 July 2021.

Published by
Vidya Academy of Science & Technology
Thalakkottukara, Thrissur-680501, Kerala, India





Contents

(Click page number to read topic)

About V-THINC	7
Dr Sudha Balagopalan, Mentor of V-THINC	8
Vidya Academy of Science and Technology	10
About this publication	11
Dedication	12
A Short Biography of Prof Biswa Nath Datta	13
Prof Biswa Nath Datta: A great well wisher of Vidya Academy of Science & Technology	16
Vidya cherishes these moments . . .	17

Profiles of speakers

1. Prof Mark Arnold (University of Arkansas)	19
2. Prof José Manoel Balthazar (Universidade Estadual Paulista, Bauru- SP, Brasil)	20
3. Prof Sanjib Basu (University of Illinois)	22
4. Prof Shankar P Bhattacharyya (Texas A&M University)	23
5. Prof Eugenius Kaszkurewicz (Federal University of Rio de Janeiro Rio de Janeiro, Brazil)	25
6. Prof Amit Bhaya (Federal University of Rio de Janeiro, Brazil)	27
7. Prof Richard A. Brualdi (University of Wisconsin)	28
8. Prof Carlos Eduardo Trabuco Dorea (Universidade Federal do Rio Grande do Norte, Brasil)	29
9. Prof Luiz Marcos Garcia Goncalves (Federal University of Rio Grande do Norte, Brasil)	31
10. Prof Alex Pothan (Purdue University)	32
11. Prof Marcos Raydan (Nova University of Lisbon, Portugal)	34
12. Prof Kumar Vikram Singh (Miami University)	35



A Ś Ī T I P R A N Ā M



13. Prof Vadim Sokolov (George Mason University)	37
14. Prof Delfim F M Torres (University of Aveiro, Portugal)	38
15. Prof James Bunch (University of California San Diego)	39
16. Prof Thomas Kailath (Stanford University)	40
17. Prof Pramod Khargonekar (University of California Irvine)	42
18. Prof Melwin Leok (University of California San Diego)	44
19. Prof Lothar Reichel (Kent State University in Ohio)	46
20. Mr Raj Datta (S/o Prof Biswa Nath Datta)	46
21. Ms Rakhi Datta (D/o Prof Biswa Nath Datta)	48
22. Prof Sylvan Elhay (The University of Adelaide)	49
23. Dr Bibhas Adhikari (IIT Khargapur)	50
24. Prof Safique Ahmad (IIT Indore)	52
25. Prof Rafikul Alam (IIT Guwahati)	53
26. Prof Somanath Bhattacharya (IIT Kharagpur)	54
27. Dr Bhujanga Chakrabarti (Waikato Institute of Technology, New Zealand)	56
28. Prof Raymond Hon-fu Chan (City University of Hong Kong)	57
29. Prof Partha P Chakrabarti (IIT Kharagpur)	59
30. Prof Rajeeb Dey (NIT Silchar)	61
31. Prof Rentsen Enkhbat (National University of Mongolia)	63
32. Prof Daniel W C Ho (City University of Hong Kong)	65
33. Prof James Lam (The University of Hong Kong)	67
34. Prof Wah June Leong (University Putra Malaysia)	68
35. Prof Debasattam Pal (IIT Bombay)	69
36. Prof Harish K Pillai (IIT Bombay)	71
37. Prof Aurobinda Routray (IIT Kharagpur)	72
38. Prof Kok Lay Teo (Curtin University, Western Australia)	74
39. Prof. Krzysztof Galkowski (Nicolaus Copernicus University in Torun, Poland)	76



A
Ś
Ī
T
I

P
R
A
N
Ā
M



40. Prof Mark Liberzon (Moscow State Aviation Technological University)

77

41. Mohamed A. Ramadan (Menoufia University, Egypt)

79





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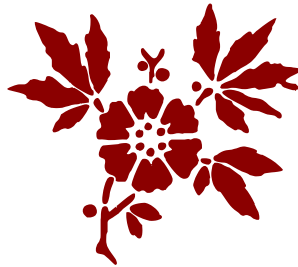


About V-THINC

V-THINC is an abbreviation for Vidya's Talking, Hearing & Integrating kNowledge Club, a grouping of first year students and interested in doing minor projects and faculty members interested in promoting such activities. The group was formed and started its operations in the beginning of the academic year 2019-20 under the mentorship of Dr Sudha Balagopalan, Dean-Academics, Vidya Academy of Science and Technology. The group was christened as V-THINC and formally launched in an online ceremony on 30 November 2020 by Prof A S Rao, President, Indian Innovators Association, Advisor/ Consultant/ Mentor – IITH, VNRVJIET.

In April 2021, the All India Council for Technical Education (AICTE), the national body created for the proper planning and co-ordinated development of the technical education system throughout the country, awarded Vidya's V-THINC Rs one lakh under SPICES Scheme (Scheme for Promoting Interests, Creativity and Ethics among Students).

Now, with the grant of Rs one lakh by AICTE under the SPICES scheme the club has obtained much deserved official recognition!





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Dr Sudha Balagopalan Mentor of V-THINC



Dr Sudha Balagopalan, Mentor of V-THINC, is currently holding the position of Dean-Academics in Vidya Academy of Science & Technology (VAST).

- Education:
 - Ph D (Power Systems) NIT, Calicut
 - M Tech (Hons)(Power Systems), University of Calicut
 - B Sc (Engg)(Hons) (Electrical Engineering) REC (now NIT), Calicut
- Academic Achievements: University Rank, BHABHA Award
- Experience: 15 Years in Industry, 15 Years teaching with 10 years in research field in organisations like Kerala State Electricity Board (KSEB), Bhabha Atomic Research Centre (BARC), EPCO-Kuwait, Vidya Academy of Science and Technology, etc
- Published several papers in national and international journals and conference proceedings,
- Organized two international conferences in Vidya
- Fellow of MIEEE, MIET and life member of ISTE



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Dr. Sudha joined VAST in August 2003 along with seven other faculty members to start the preparatory works of the new college VAST scheduled to be inaugurated on 17-08-2003. Since then VAST grew in size, reach and fame to attain the present stature of a premier technical education institution in the State. Dr. Sudha kept pace with the institution's growth and made valuable contributions to its development. Institution recognized her work and responded by elevating her to the position of Professor and Head of Department on 01-08-2008. Dr. Sudha had her PhD from NIT Kozhikode while in service in record time and became the first person achieving this in VAST.

During her tenure as Head of EEE Department she came up with a proposal to hold an international conference, the first among the self financing colleges in the state. College authorities and management officials were sceptical about its success and so not favoured it initially. However her confidence, determination and enthusiasm influenced all and made to agree and thus started the now famous EPSCICON international conference series in 2010 January.

By this time she established as an authority in her subjects and gained name and fame in the academic circle. The managing Trust offered her the post of Principal in the college and she became the Principal on 30-04-2012. During her period as principal college made impressive growth in size, activities and service. Above all she became the icon of love, care and compassion to her students, faculty, staff and parents.

In 2017, on completing 5 eventful years in the principal's post Dr. Sudha requested a change of role to concentrate more on academics and research, two areas close to her heart but could not pay due attention due to administrative responsibilities of the principal. The Trust accepted the request and to continue to get her services she was appointed as Dean Academics and ever since she has been guiding VAST in academics, research and collaborations.





Vidya Academy of Science and Technology

Vidya Academy of Science & Technology (VAST) is a state-of-the-art engineering college conforming to international standards. This model engineering college is approved by AICTE vide approval NO./06/ KER/ ENGG/2002/91 dated 12/05/03 and affiliated to APJ Abdul Kalam Technological University. In few years VAST has evolved and achieved recognition as a notable School of Engineering with its competent and committed faculty, high quality infrastructure and high technology teaching aids, and by providing a serene atmosphere that complements academic life. VAST has a holistic approach to education where academic training goes hand in hand with offerings that develop the body, mind and soul to prepare its graduates to be future leaders.



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About this publication

This publication titled “AŚĪTI PRANĀM” is a compilation of the profiles of the speakers in the the International Online Felicitation Meeting organised on 1 July 2021 in honour of Prof Biswa Nath Datta on the occasion of his 80th birthday. Prof Datta has been a well-wisher of Vidya ever since he came into contact with Vidya, through the efforts of Dr Sudha Balagopalan, in connection the organisation of EPSCICON 2010, the first ever international conference organised in Vidya.

The word “AŚĪTI” comes from Sanskrit which is a classical language of South Asia belonging to the Indo-Aryan branch of the Indo-European languages and it is the language of classical Hindu philosophy, and of historical texts of Buddhism and Jainism. In Sanskrit, “AŚĪTI” means “eighty” and it is commonly used to denote one's eightieth birthday.

Dr V N Krishnachandran

Editor, “AŚĪTI PRANĀM”

(Vice-Principal and Head of Department of Computer Applications
Vidya Academy of Science and Technology)



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Dedication

We dedicate this memorabilia to

Prof Biswa Nath Datta

for his love and regard for the faculty and students of Vidya
and for his unqualified support for the academic enrichment of Vidya.

V-THINC

Vidya Academy of Science & Technology

Thrissur – 680501

Kerala, INDIA





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A short biography of Prof Biswa Nath Datta

Biswa Nath Datta is a Distinguished Research Professor at Northern Illinois University. He is a Professor in the Mathematical Sciences Department and an adjunct professor in the Electrical and Mechanical Engineering Department at NIU. He has served as the Director of the Applications Involvement Component (AIC) of the Doctoral Program at NIU. He developed the current “Computational Mathematics” program and took a major active role in the development of the Mathematical Sciences Ph.D program at NIU.

Datta also held visiting professorship at the University of Illinois at Urbana-Champaign, Pennsylvania State University, Southern Illinois University, University of California at San Diego, State University of Campinas, Campinas, Brazil, University of Adelaide, Australia, several universities in China, Japan, Hong Kong, Taiwan, India, as well as many other universities, research organizations, and industries around the world, including the Boeing Company and Wolfram Research Incorporation.

His research interests are interdisciplinary that blend numerical linear algebra and scientific computing (including large-scale and high performance computing) with control and vibration engineering. His interdisciplinary research has produced computationally viable algorithms and high-quality engineering and scientific software packages (that did not previously exist) for scientific computing and electrical and vibration control systems design and analysis. He also pioneered the research in on large-scale and parallel computations in control. His current research involves development of -



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computationally viable and mathematically-sound algorithms for “Active Vibration Control” and “Model Updating” of large vibration systems modeled by finite element techniques. The thrusts of this research are in its applications to real-life problems arising in vibration industries, including automobiles, buildings, bridges, highways, air and space crafts, and in mathematical justifications of many ad hoc industrial techniques which lack solid mathematical foundations.

Datta has authored more than 150 research papers, two books, Numerical Methods for Linear Control Systems-Design and Analysis, and Numerical Linear Algebra and Applications, and several software packages, including MATLAB-based toolboxes, MATCONTROL, MATCOM, and MATHEMATICA-based Advanced Numerical Methods. These packages are routinely used for classroom instructions, and academic and industrial research and developments.

His research has been supported by NSF, the Air force Office of Scientific Research, US Department of Education, the Office of Naval Research (Japan), the Boeing Company, Wolfram Research Incorporation and numerous overseas funding agencies.

In recognition of his research contributions, he has received several prestigious honors and awards. These included, election to IEEE Fellow in 2000, induction as an Academician of the Academy of Nonlinear Sciences (Russia) in 2002, Senior Fulbright Specialist Award in 2006 and 2009, and several IEEE Plaques and Medals of Honor. He is an IEEE Distinguished Lecturer and also has been honored by several IEEE sponsored conferences.

Datta was honored in an IEEE honoring ceremony held during the banquet of the International Workshop on Numerical Linear Algebra in Signals, Systems and Control, at Indian Institute of Technology, Kharagpur, India, 2007 and was awarded a Medal of honor at a special honoring ceremony held at the First International Conference on Power, Control, and Signals (EPSCICON,10), Thrissur, India.

A multiple research publications honoring Datta and in recognition of his research have appeared recently : the Research Mongraph on “Numerical Linear Algebra in Signals, Systems, and Control”, Springer, 2010, A Special Issue of “Linear Algebra and its Applications”, 2011, and A Special issue of “Numerical Linear Algebra with Applications” on “Inverse Problems in Science and Industry (to appear) India, January, 2010.

Datta is the recipient of “The 2015 Fulbright-Nehru Distinguished Chair Professor” offered by US State Department and “The 2017 PC Ray Distinguished Chair Professorship” bestowed by Indian National Science Academy.





Datta has served on the editorial board of premier mathematics journals in his areas of expertise, such as SIAM J. Matrix Analysis and Applications and Linear Algebra and its Applications (Special Editor) and Numerical Linear Algebra with Applications, Mechanical Systems and Signal Processing, and Dynamical Systems.

He was the Vice-chair of the SIAM Linear Algebra Activity Group and has organized several successful interdisciplinary conferences sponsored by the American Mathematical Society and SIAM, and MTNS (Mathematical Theory of Networks and Systems), IEEE. He also co-edited several Proceedings books of these conferences.



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Prof Biswa Nath Datta: **A great well wisher of** **Vidya Academy of Science & Technology**

Prof Datta has been a well-wisher of Vidya ever since he came into contact with Vidya, through the efforts of Dr Sudha Balagopalan, in connection the organisation of EPSCICON 2010, the first ever international conference organised in Vidya.

The help extended by Prof Datta played a key role in the great success of EPSCICON 2010.

He was also physically present in Vdya's campus on all the days of the Conference interacting with faculty members and students and motivating young teachers to pursue a career in research.

Prof Datta also attended the fourth edition of the EPSCICON series of international conferences held during 6 – 10 January 2018.

A special feature of the inaugural ceremony of that Conference held in 2018 was the celebration of the award of the prestigious PC Ray Chair to Prof Biswa Nath Datta by Indian National Science Academy (INSA).

He was awarded the PC Ray Chair based on the basis of a nomination from Dr Sudha Balagopalan.





Vidya cherishes these moments . . .

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Profiles of Speakers





1

Prof Mark Arnold
University of Arkansas, USA



Mark Arnold, Director, Statistics and Analytics Program, Graduate School, Associate Professor, Department of Mathematical Sciences, Science-Engineering 418, University of Arkansas, Fayetteville

- PhD, Mathematics, Northern Illinois University, De Kalb
- Highly published

He serves the (ARSC)-Arts & Sciences as Associate Professor and Statistics and Analytics Director, Graduate School at the University of Arkansas.



Contents

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2

Prof José Manoel Balthazar

Universidade Estadual Paulista,
Bauru- SP, Brasil



José Manoel Balthazar is a Full Member (Elected) of the Academy of Sciences of the State of São Paulo (ACIESP) and full Professor of nonlinear dynamics and control of UNESP-Universidade Estadual Paulista, Bauru- SP, Brasil and Visiting Professor Universidade Tecnológica Federal do Paraná, Ponta Grossa, PR, Brasil.

Prof. Balthazar holds a PhD in Mechanical Engineering from the University of São Paulo, São Carlos Campus (EEUSP-São Carlos, São Paulo) and is a Doctor in Science at UNESP. He holds a master's degree from the Technological Institute of Aeronautics (ITA, São José dos Campos, SP). He completed postdoctoral degrees in Engineering and Mechanics, Virginia Tech, Blacksburg, Virginia, USA (1994-1995) and (Visiting Professor) at Virginia Tech, Blacksburg, Virginia, USA (2007,2012).

He exercised the role of ABCM Advisor, Secretary of the Committee on Non-linear Phenomena of ABCM (Brazilian Association of Engineering and Mechanical Sciences until 2018) and also served as Board Member of SBMAC and Coordinator of the Thematic Committee on Dynamics, Control and its Applications in Science and Technologies of SBMAC (Brazilian Society of Applied and Computational Mathematics) until May (2016).

Founding member of the events: ICONNE(ABCM) and DINCON(SBMAC).

- He was Editor-in-Chief of the Journal of International Circulation: Mathematical Problems for Engineering (MPE) from (2007-2009)
- Currently Associate Editor for South America of the Journal Journal of Vibration Engineering & Technologies (JVET)

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- Member of the Main Editorial Board of the International Journal: Journal of Vibration and Control (JVC), both indexed in (Web of Sciences).



Contents

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3

Prof Sanjib Basu
University of Illinois, USA



UNIVERSITY OF ILLINOIS
CANCER CENTER

Chicago | Rockford | Peoria



Dr Sanjib Basu, PhD, Paul Levy and Virginia F. Tomasek Professor of Biostatistics, is the director of the biostatistics section. He is the co-director of the Population Health Analytics Metrics and Evaluation (PHAME) Center, providing a hub of advanced data visualization, evaluation, and analytics to community members, students, policy makers and researchers in the city of Chicago and beyond.

Dr. Sanjib Basu has a wide and deep expertise in statistical methodological research, statistical computation, and collaborative work with clinical and biomedical researchers in cancer. He is the Paul Levy and Virginia F. Tomasek Professor of Biostatistics and Director, Center for Biostatistical Development, at the University of Illinois at Chicago. Dr. Basu is also a Fellow of the American Statistical Association, an Elected Member of the International Statistical Institute, and a member of the Editorial Board of multiple journals. , and He was a Presidential Research Professor and the Director of the Statistics Division at Northern Illinois University. He has an extensive list of publications on statistical methodology in prestigious statistics journals including methodological development for analysis of data from the SEER cancer registries. His records of collaborative publications include topics focusing on genetic, molecular, clinical and surgical research on lung, ovarian, leukemia, lymphoma, breast, melanoma and other cancers





**Prof Shankar P
Bhattacharyya**
Texas A&M University, USA



Professor, Electrical & Computer Engineering, Texas A&M University. Shankar P. Bhattacharyya was born in Yangon, Myanmar, in 1946. He received the B.Tech. degree from IIT, Bombay, India, in 1967, and the M.S. and Ph.D. degrees from Rice University, Houston, TX, USA, in 1969 and 1971, respectively. He established the graduate program in automatic control at the Federal University, Rio de Janeiro, Brazil, from 1971 to 1980, and served as the Department Head of Electrical Engineering from 1978 to 1980. He has held an NRC-NASA Resident Research Associateship, a Senior Fullbright Lectureship, and the Boeing-Welliver Faculty Fellowship. He is currently the Robert M. Kennedy Professor of electrical engineering with Texas A&M University, College Station, TX, USA. His contributions to control theory and include the first solution of the linear servomechanism problem, the theory of robust and unknown input observers, a pole assignment algorithm based on Sylvester's equation, the computation of the parametric stability margin, a generalization of Kharitonov's theorem, the demonstration of the fragility of optimal and high order controllers, the synthesis of PID and fixed order controllers, and most recently an approach to model free, data driven controller synthesis. He has authored or co-authored five books and over 200 journal and conference papers.

Educational Background

- Ph.D., Rice University – 1971
- M.S. Control Systems –1969
- B.Tech., IIT-Bombay – 1967

Research Interests

- Automatic Control Systems
- Multivariable Control System Analysis and Design
- Computer Aided Control System Design (CACSD)
- Robust Stability and Control Theory and Applications



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Awards & Honors

- Awarded the Professor Visitante Especial in September 2013 by the Brazilian Research Council, 2014-2017
- Elected Foreign Member of Academia Brasileira de Ciencias (Brazilian Academia of Sciences), 2011
- International Federation of Automatic Control (IFAC) Fellow Award, 2011
- Outstanding ECEN Professor Award, 2009.
- Senior TEES Fellow, 2000
- Boeing-Welliver Faculty Fellow, 1998
- Dresser Industries Professor, 1992
- Halliburton Professor, 1991
- IEEE Fellow, 1989
- TEES Fellow, 1989, 1999.
- National Academy of Sciences- NASA Research Fellow, 1974 - 1975 held at the Marshall Space Flight Center.
- Government of India Scholar 1962 – 67.

He is an accomplished Sarod player, and a student of Padma Vibhushan Ali Akbar Khan and provides motivation to his students even in the music field.



Contents



5

**Prof Eugenius
Kaszkurewicz****Federal University of Rio de Janeiro
Rio de Janeiro, Brazil**

Prof Eugenius Kaszkurewicz, Department of Electrical Engineering,
Federal University of Rio de Janeiro Rio de Janeiro, Brazil

Publication Topics

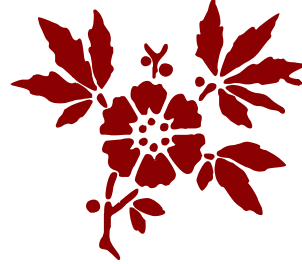
Advertising, Volterra equations, customer satisfaction, energy management systems, oligopoly, optimal control, optimisation, power grids, power system control, power system economics, Lyapunov methods, discrete time systems, gradient methods, neural nets, linear systems, matrix algebra, stability, conjugate gradient methods, Hopfield neural nets, asymptotic stability, convergence, power system analysis computing, stability criteria, Newton-Raphson method, continuous time systems

Biography

Eugenius Kaszkurewicz received the bachelor's degree in aeronautical engineering from the Instituto Tecnológico de Aeronáutica, São José dos Campos, Brazil, in 1970, and the master's and D.Sc. degrees from the Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, in 1972 and 1981, respectively. From 1985 to 1987, he was a Visiting Professor with Santa Clara University, Santa Clara, CA, USA, where he was a Research Fellow (level 1A of CNPq/Brazil) from 1996 to 2015. In 2016, he joined the Federal University of Rio de Janeiro (COPPE/UFRJ), as a Full Professor. He co-authored, with A. Bhaya, the books Matrix Diagonal Stability in Systems and Computation (Birkhäuser/Springer, 2000) and Control Perspectives on Numerical Algorithms and Matrix Problems (SIAM, 2006).



His current research interests include parallel computation, numerical algorithms, convergence, stability, Lyapunov methods, and the optimization and control of large-scale systems.



Contents

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6

Prof Amit Bhaya

Federal University of Rio de Janeiro,
Brazil



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Prof. Amit Bhaya received the Bachelor of Technology degree (Hons.) in electrical engineering from the Indian Institute of Technology, Kharagpur, and the master's and Ph.D. degrees in electrical engineering from the University of California at Berkeley.

He is currently a Full Professor in the Dept. of Electrical Engineering, Federal University of Rio de Janeiro, Brazil. He has worked in the area of control and systems theory and applications, with emphasis in the areas such as matrix stability theory, applications of switched and variable structure systems, stability of neural networks, mathematical ecology, parallel computation (asynchronous iterative methods), control perspectives on numerical methods, and, recently, optimization and control perspectives on problems arising in business and finance.

He has co-authored the books Matrix Diagonal Stability in Systems and Computation (Birkhauser/Springer 2000) and Control Perspectives on Numerical Algorithms and Matrix Problems (SIAM 2006).

Since 1992, he has been holding a Research Fellowship (level 1A), granted by the Brazilian National Council for Scientific and Technological Development (CNPq). His research has also been funded by the Brazilian Government agencies CAPES and FINEP. He has carried out consultancy projects, in the broad areas of control and computation, for the Brazilian companies Petrobras and Eletrobras, as well as the multinational company Dell-EMC.

From January 2010 to December 2012, he was an Associate Editor of the IEEE Transactions on Neural Networks and Learning Systems.



Contents





7

Prof Richard A. Brualdi

University of Wisconsin, USA



Richard Anthony Brualdi (born September 2, 1939 in Derby , Connecticut) R. A. Brualdi is a professor emeritus of combinatorial mathematics at the University of Wisconsin–Madison, He is an American mathematician who works on combinatorics , graph theory , linear algebra (matrix theory) and coding theory. Brualdi studied at the University of Connecticut (bachelor's degree in 1960) and at Syracuse University , where he received his master's degree in 1962 and his doctorate in 1964 with Herbert Ryser (Combinatorial Aspects of the Direct Product of Matrices).

From 1965 he was an assistant professor at the University of Wisconsin - Madison , where he received a full professorship in 1973, Beckwith Bascom Professor of Combinatorial Mathematics from 2004 and retired in 2008. In 1974 he was a visiting scholar at the University of Budapest (as a Research Fellow of the National Academy of Sciences) and in 1969/70 as a NATO Fellow at the University of Sheffield. In 2000 he received the Euler Medal for his life's work in combinatorics. In 2005 he received the ILAS Hans Schneider Prize.

From 1996 to 2002 he was President of the international Linear Algebra Society (ILAS). In 2012 he was elected a fellow of the Society for Industrial and Applied Mathematics. In 2012 he became an inaugural fellow of the American Mathematical Society. Brualdi is co-editor of the Electronic Journal of Combinatorics (since 2001) and of Linear Algebra and its Applications (since 1979). He has over 200 publications in several mathematical journals.



Contents



8

Prof Carlos Eduardo Trabuco Dorea

Universidade Federal do Rio Grande
do Norte, Brasil



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S
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Prof. Dorea is an Electrical Engineer with a PhD in Automatics. Then he served as a Professor at the Polytechnic School of the Federal University of Bahia, where he taught and led guided research in the Graduate Program in Electrical Engineering, and also the coordinator.

He is currently a Full Professor at the Department of Computer Engineering and Automation at the Federal University of Rio Grande do Norte. Earlier, he was coordinator of the PG Program in Mechatronics Engineering at UFRN. He is a permanent professor in the PG programs in Electrical and Computer Engineering (PPgEEC) and Mechatronics Engineering (PEM) and a collaborating professor in the postgraduate program in Petroleum Science and Engineering (PPgCEP), all at UFRN. He has a CNPq Research Productivity 2 Scholarship. He has experience in the area of Control Systems, acting on the following topics: linear systems, control under constraints, techniques based on invariant sets, theory and applications of predictive control.

Academic/professional training

- Degree in Electrical Engineering, Electronics option, from the Federal University of Bahia
- Masters in Electrical Engineering, Automation option, from the State University of Campinas
- Doctorate in Automatics from the Université Paul Sabatier de Toulouse, France (1997)
- Post-Doctoral Internship at Katholieke Universiteit Leuven, Belgium (2008)





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From 1998 to 2001 he served as a fellow of the CNPq Regional Scientific Development program at the Department of Electrical Engineering of the Polytechnic School of the Federal University of Bahia (DEE/UFBA).

2001 a 2010 he served as Assistant Professor, Adjunct and Associate at DEE/UFBA.

From 2010 until October 2017, he served as an Associate Professor and since then has been a Full Professor in the Department of Computer Engineering and Automation at the Federal University of Rio Grande do Norte.

Areas of Interest (teaching and research areas of interest)

Control Systems, acting on the following subjects:

- linear systems
- control under constraints
- techniques based on set invariance
- theory and applications of predictive control



Contents



9

Prof Luiz Marcos Garcia Goncalves

Federal University of Rio Grande do
Norte, Brasil



Prof. Luiz Goncalves holds a PhD in Robotics Vision from Laboratory for Computer Graphics and Vision at the Systems and Computer Engineering Dept of COPPE-UFRJ, Brazil, in 1999, with a 2 years sandwich program at Laboratory for Perceptual Robotics of UMASS, Amherst, MA, USA. He is Full Professor at the Computer Engineering Department of UFRN, Brazil. His researches include several aspects of Graphics Processing including fields as Robotics Vision (main interest), Computer Graphics, GIS, Geometric Modeling, Computer Animation, Image Processing, Computer Vision, and Robotics in Education.

Experience

- Associate Professor at Universidade Federal do Rio Grande do Norte, Department of Computer Engineering and Automation Natal, Brazil
- Professor, University of Campinas, Institute of Computing, Brazil.

Research Interest

- Image Processing
- Pattern Recognition
- Computer Vision
- Machine Learning
- Robotics
- Feature Extraction
- Control Theory





10

Prof Alex Pothen**Purdue University, USA**

Dr. Pothen is an alumnus of the 1978 Batch of the five-year integrated MSc program in Chemistry at IITD, and later received his PhD from Cornell University. He specializes in the fields of combinatorial scientific computing (CSC), parallel algorithms, graph algorithms, and bioinformatics.

In Bioinformatics, he is developing algorithms for registering and classifying cell populations in Flow Cytometry data to understand the immune system. He has also developed algorithms for identifying functional modules in protein interaction networks, and for identifying biomarkers for lung and prostate cancer from mass spectral data.

Dr. Pothen served as the Director of the Combinatorial Scientific Computing and Petascale Simulations (CSCAPES) Institute, a pioneering research project in CSC funded by the U.S. Department of Energy's Office of Science. The CSCAPES Institute involved thirty researchers from different universities. CSCAPES researchers developed computational tools in CSC that enable large-scale computational models in science and engineering on Peta-scale computers.

A fellow of the Society for Industrial and Applied Mathematics (SIAM), he also served as the founding Chair of the SIAM Activity Group on Applied and Computational Discrete Algorithms

He is an editor of the Journal of the A.C.M., and various book series and journals of the Society for Industrial and Applied Mathematics: SIAM Books, SIAM Spotlights, SIAM Review, SIAM Journal on Scientific Computing, and SIAM Monographs in Computational Science and Engineering.

SIAM has awarded the George Polya prize in Applied Combinatorics to him and his coauthors Assefaw Gebremehin, Fredrik Manne for their work on -



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"efficient graph coloring algorithms and codes with applications to Jacobian and Hessian matrix computations". His work provides a unifying framework for developing graph models and algorithms for 10 variant derivative matrix estimation problems.

This work is being used in more than 50 areas of science and engineering, from robots that assist patients with impaired mobility to the dynamics of star formation.

Dr. Pothan has received a National Science Talent Scholarship, the Director's Silver Medal and a Distinguished Alumnus award from IIT Delhi, a Cornell fellowship, an IBM University Research award, and two distinguished teaching awards.



Contents





11

Prof Marcos Raydan
Nova University of Lisbon, Portugal



Marcos Raydan, Principal Researcher, Center of Mathematics and Applications (CMA), FCT Nova University of Lisbon, Caparica, Portugal.



Contents

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P
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12

Prof Kumar Vikram Singh

Miami University, Ohio, USA



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Dr. Kumar Vikram Singh holds a Ph.D in Mechanical Engineering from Louisiana State University, Baton Rouge, and B.E in Mechanical Engineering from Birla Institute of Technology, Ranchi, India.

PROFESSIONAL APPOINTMENTS:

At Miami University, Oxford, OHIO,

- Director of Graduate Programs and Research, The College of Engineering and Computing
- Acting Associate Dean, The Graduate School,
- Professor, Associate Professor, Asst Professor, Mechanical & Manufacturing Engineering Dept.
- Visiting Researcher, Multidisciplinary Science and Technology Center (AFRL/RQVC), Dayton, OHIO
- Air Force Summer Faculty Fellowship, Multidisciplinary Science and Technology Center (AFRL/RQVC) Air Vehicles Directorate, Wright Patterson Air Force Base, Dayton, OH
- Visiting Senior Fellow, Department of Engineering, University of Liverpool, UK.
- Visiting Assistant Professor, Research Associate, Research Assistant, Mechanical Engineering Department, Louisiana State University, Baton Rouge, LA.
- Trainee Engineer, 07/97 - 07/98 HINDALCO Industries Limited, Renukoot, INDIA

Research Interests:

Multidisciplinary Inverse Eigenvalue Problems in Vibration and Control, Aeroelasticity and Aeroservoelastic Control, Smart Viscoelastic Polymeric Materials, Composite Materials and Structures, Structural Health Monitoring, Engineering Education and Rotor dynamics.





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Selected Research Projects:

- Development of Aeroservoelastic Control Strategies
- Fabrication, Characterization and Control of Smart Viscoelastic materials, 2012-present
- Rotordynamic Analysis and Control, 2012 – Present
- Computational tools for Bio- Mechanical Studies, 2009 - Present
- Inverse Eigenvalue problems in vibration, active control and optimization, 2008 – Present
- Non-Destructive Technique for Weld and Damage Characterization, Supported by Schneider Electric/Square D Foundation Grant, 2008
- Structural Health Monitoring and Non-Destructive Evaluation Techniques from Measured Spectral Data, Supported by SEAS Undergraduate Summer Research Grant (2008) and Shoupp Award (2007), Miami University, 2007



Contents





13

Prof Vadim Sokolov

George Mason University, USA



Prof. Vadim Sokolov is an assistant professor in the Systems Engineering and Operations Research Department at George Mason University. He works on building robust solutions for large scale complex system analysis, at the interface of simulation-based modelling and statistics. This involves, developing new methodologies that rely on deep learning, Bayesian analysis of time series data, design of computational experiments and development of open-source software that implements those methodologies. Inspired by an interest in urban systems he co-developed mobility simulator called Polaris that is currently used for large scale transportation networks analysis by both local and federal governments. Prior to joining GMU he was a principal computational scientist at Argonne National Laboratory, a fellow at the Computation Institute at the University of Chicago and lecturer at the Master of Science in Analytics program at the University of Chicago.

He has published in such leading statistics, mathematics and engineering journals, as the Annals of Applied Statistics, Transportation Research Part C, Linear Algebra and Its Applications as well as in Mechanical Systems and Signal Processing. He holds a PhD in computational mathematics from Northern Illinois University, and pursued graduate studies in statistics at the University of Chicago, while working at Argonne.



Contents



14

Prof Delfim F M Torres

University of Aveiro, Portugal



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Dr. Delfim F. M. Torres is a Full Professor at the Department of Mathematics of University of Aveiro, Portugal, and Coordinator of the Systems and Control Group of CIDMA. He served as an Associate Editor for the SIAM Conference on Control and Its Applications (CT13), held in San Diego, USA, 2013, was a member of the Program Committee (PC) of SIAM-CT15, held in Paris, 2015, and is a member of the PC of SIAM-CT17, to be held in Pittsburgh, USA, from July 8 to 10, 2017. His main research area is calculus of variations and optimal control, optimization, with emphasis on the regularity of solutions and necessary optimality conditions, fractional derivatives and integrals, dynamic equations on time scales or measure chains, and Mathematical Biology. Delfim F. M. Torres has co-authored two books with Imperial College Press and World Scientific Publishing, 2012 and 2015, and two books with Springer, 2014 and 2015. Delfim F. M. Torres is a Highly Cited Researcher (<http://highlycited.com>).



Contents



15

Prof James Bunch

University of California San Diego,
USA

UC San Diego



Professor, Department of Mathematics
University of California, San Diego

Research Interest

- Numerical Linear Algebra
- Signal Processing

Education

Ph.D. Mathematics, University of California, Berkeley, 1969

Biography

After completing his Ph.D. at Berkeley in 1969, James Bunch joined the Applied Mathematics Division of Argonne National Laboratory. In 1969-70 he was an Instructor in the Department of Mathematics at the University of Chicago, and in 1971-74 he was an Assistant Professor of Computer Science at Cornell University. He came to the Department of Mathematics at UCSD in 1974 as an Associate Professor, and became Professor of Mathematics in 1980. He served as Department Chair in 2002-04.

Honors

- Woodrow Wilson Fellow
- Fulbright Fellow

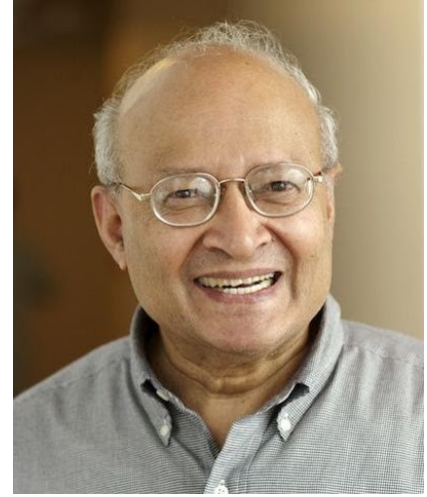


Contents



16

Dr. Thomas Kailath
Stanford University, USA



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T
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P
R
A
N
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M

Padmabhushan Prof. Thomas Kailath, is an electrical engineer, information theorist, control engineer, entrepreneur and the Hitachi America Professor of Engineering, Emeritus, at Stanford University.

Dr. Kailath, received his bachelor degree from Government College of Engineering, the University of Pune and his Master's and PhD from the Massachusetts Institute of Technology (MIT) and was the first Indian-born student to receive a doctorate in electrical engineering from MIT. He then worked at the Jet Propulsion Labs in Pasadena, CA, before being appointed to Stanford University as Associate Professor of Electrical Engineering in 1963. He was promoted to Professor, and appointed as the first holder of the Hitachi America Professorship in Engineering in 1988. He also held shorter-term appointments at several institutions around the world: UC Berkeley, Indian Statistical Institute, Bell Labs, Indian Institute of Science, Cambridge University, K. U. Leuven, T.U. Delft, Weizmann Institute, Imperial College, MIT, UCLA, T. U. Munich. He assumed emeritus status in 2001, but remains active with his research and writing activities.

His research and teaching have ranged over several fields of engineering and mathematics: information theory, communications, linear systems, estimation and control, signal processing, semiconductor manufacturing, probability and statistics, and matrix and operator theory. Dr. Kailath has mentored an outstanding array of over a hundred doctoral and postdoctoral scholars. Their joint efforts have led to over 300 journal papers, a dozen patents and several books and monographs, including the major textbooks: Linear Systems (1980) and Linear Estimation (2000) of which the former is one of the most referenced books in the field of linear systems.





A Ś Ī T I P R A N Ā M

He was awarded the Padma Bhushan award in 2009 by the Government of India for his contribution to Science and Engineering. President Barack Obama selected him for the National Medal of Science along with other prominent scientists for "invaluable contributions to their fields and helping improve countless lives." He received the IEEE Medal of Honor in 2007 for "exceptional contributions to the development of powerful algorithms for communications, control, computing and signal processing." Among other major honors are the Shannon Award of the IEEE Information Theory Society; the IEEE Education Medal and the IEEE Signal Processing Medal; the 2009 BBVA Foundation Prize for Information and Communication Technologies; election to the U.S. National Academy of Engineering, the U.S. National Academy of Sciences, and the American Academy of Arts and Sciences; foreign membership of the Royal Society of London, the Royal Spanish Academy of Engineering, the Indian National Academy of Engineering, the Indian National Science Academy, the Indian Academy of Sciences, and TWAS (The World Academy of Sciences).



Contents





17

Prof Pramod Khargonekar
University of California Irvine, USA



A
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T
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Distinguished Professor in Electrical Engineering and Computer Science,
Vice Chancellor for Research, University of California, Irvine

Education:

- Ph. D. – Electrical Engineering, University of Florida, Dissertation Advisor: Professor R. E. Kalman
- M. S. – Mathematics, University of Florida
- B. Tech. – Electrical Engineering, Indian Institute of Technology, Bombay

Main Fields of Interest:

Systems and Control Theory and Applications, Smart Grid and Renewable Energy, Machine Learning and Control, Engineering Education and Research, Technology and Society

Previous Positions:

- Assistant Director for Engineering, National Science Foundation,
- Deputy Director for Technology, Advanced Research Projects Agency – Energy (ARPA-E)
- U. S. Department of Energy, Eckis Professor of Electrical & Computer Engineering, University of Florida

Awards & Honors

- IEEE Control Systems Award, • IEEE Control Systems Society Bode Lecture Prize, 2021.





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- Presidential Young Investigator Award, National Science Foundation, W. R. G. Baker Prize Paper Award, IEEE, George S. Axelby Best Paper Award, IEEE Control Systems Society, Donald P. Eckman Award – Best Young (under the age of 35) Control Engineer, American Automatic Control Council,
- O. Hugo Schuck Best Paper Award American Automatic Control Council,
- Fellow, IEEE, Fellow, International Federation of Automatic Control, Fellow, American Association for Advancement of Science, Distinguished Alumnus Award, IIT, Bombay, Research Excellence Award, The University of Michigan, George Taylor Award for Research, Institute of Technology, University of Minnesota, Teaching Excellence Award, The University of Michigan, Distinguished Service Award, IIT, Bombay, Best Faculty Paper Award, University of Florida, Sigma Xi Award for Outstanding Research on Mathematical System Theory, University of Florida, Best Ph.D. Dissertation, Department of Electrical Engineering, University of Florida,
- Several Conference Best Paper Awards

Honors

- Web of Science Highly Cited Researcher, Russell Springer Professor, Dept. of Mechanical Engineering, University of California, Berkeley, Japan Society for Promotion of Science Fellowship, Eckis Professor of Electrical and Computer Engineering, University of Florida, Claude E. Shannon Professor of Engineering Science, The University of Michigan, Fellow, CIC (Big 10 Committee on Institutional Cooperation) Academic Leadership Programme



Contents





18

Prof Melwin Leok
University of California San Diego,
USA

UC San Diego



Professor of Mathematics, Co-Director, CSME Graduate Program, University of California, San Diego

Prof. Melvin Leok is a tenured (full) professor of mathematics at the University of California, San Diego, where he is affiliated with the Center for Computational Mathematics, the Cyber Center for Control Systems and Dynamics, the Contextual Robotics Institute, and Halicioglu Data Science Institute.

His research is supported in part by grants from the National Science Foundation (NSF), including a Faculty Early Career Development (CAREER) award, and from the Air Force Office of Scientific Research (AFOSR). He serves on the editorial boards of the Journal of Nonlinear Science, the Journal of Computational Dynamics, and the Journal of Geometric Mechanics, and used to serve on the editorial boards of the SIAM Journal on Control and Optimization, and the LMS Journal of Computation and Mathematics.

He was previously the faculty at Purdue University, and was a visiting faculty member at the University of Michigan, and the California Institute of Technology. He received his B.S. with honors and M.S. in Mathematics, and his Ph.D. in Control and Dynamical Systems with a minor in Applied and Computational Mathematics under the direction of Jerrold Marsden in 2004, all from the California Institute of Technology.

He is a three-time National Academy of Science Kavli Frontiers of Science Fellow, and was the recipient of the DoD Newton Award for Transformative Ideas, the SciCADE New Talent Prize, the SIAM Student Paper Prize, and the Leslie Fox Prize (second prize) in Numerical Analysis.

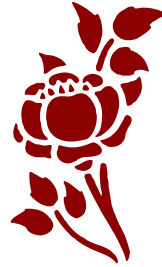
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His notable invited addresses include plenary talks at the Foundations of Computational Mathematics conference, the NUMDIFF-14: Numerical treatment of differential and differential-algebraic equations conference, and the IFAC Workshop on Lagrangian and Hamiltonian Methods for NonLinear Control.



Contents

A
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T
I

P
R
A
N
Ā
M





19

Prof Lothar Reichel
Kent State University in Ohio, USA



Professor, Department of Mathematics
University of California, San Diego

Research Interest

- Numerical Linear Algebra
- Signal Processing

Education

Ph.D. Mathematics, University of California, Berkeley, 1969

Biography

After completing his Ph.D. at Berkeley in 1969, James Bunch joined the Applied Mathematics Division of Argonne National Laboratory. In 1969-70 he was an Instructor in the Department of Mathematics at the University of Chicago, and in 1971-74 he was an Assistant Professor of Computer Science at Cornell University. He came to the Department of Mathematics at UCSD in 1974 as an Associate Professor, and became Professor of Mathematics in 1980. He served as Department Chair in 2002-04.

Honors

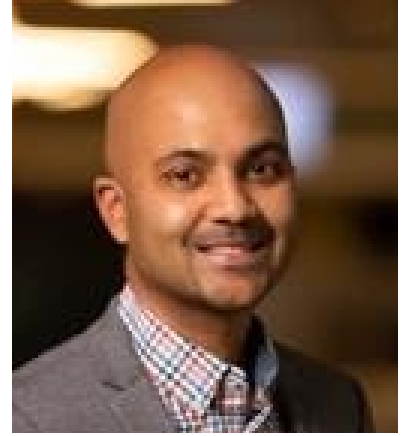
- Woodrow Wilson Fellow
- Fulbright Fellow





20

Mr Raj Datta
(S/o Prof Biswa Nath Datta)



Mr Raj Datta (Prof Datts's Son), CEO & Co Founder at oak9, completed his BA in the field of economics from the University of Illinois Urbana Campaign in the year 1998. He has done his master's in business administration in the field of finance and marketing at the Northwestern University Kellogg School of Management in the year 2007.

He started his career in IBM and worked there for a duration of 18 years. While y leaving he was holding the post of vice president of cloud AI and analytics distribution market, North America.

He served as a chief revenue officer for the company CIBO technologies in the year 2018

He was holding the post of president in the company software AG in the year of 2019, North America. He also served as an advisor for the companies extreme data and sensing INC. He is also serving as a board member for the company springboard and leading it to success from 2018 onwards



Contents



21

Ms Rakhi Datta
(D/o Prof Biswa Nath Datta)



Ms. Rakhi Datta, Talent Development Business Partner, Capital Group. Ms. Rakhi Datta holds Master of Arts (M.A.) in Learning Sciences - Corporate Education from Northwestern University and Bachelor of Science (BS) in Finance from University of Illinois at Urbana-Champaign. She is the Talent Development Business Partner of Capital Group.

Experiences

1. Photographer/Instructional Designer at Lily Milan Photography in California .
2. Instructional Designer at Grant Thornton LLP in Chicago.
3. Finance Team Lead/Financial Analyst at IBM Global Services .
4. Consultant/Financial Analyst at Accenture in Dublin.
5. Mutual Fund Analyst at Morningstar in Chicago.



Contents



22

Prof Sylvan Elhay
The University of Adelaide, Australia



Dr. Sylvan Elhay, Visiting Research Fellow, School of Computer Science, University of Adelaide. He completed his Ph.D. from University of Adelaide in 1970. His Research interests are Numerical linear algebra, orthogonal polynomials, quadrature formulae, quadratic inverse eigenvalue problems, water distribution systems, convex optimization. He has more than 60 publications.

He is a leading Adelaide jazz saxophonist. Although predominantly a jazz musician, his musical interests cover all forms of music and he played flute for some time in a group that specialised in Indian classical music.



Contents



23

Dr Bibhas Adhikari
IIT Khargapur, India



A
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T
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P
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A
N
Ā
M

Dr Bibhas Adhikari, Assistant Professor at Department of Mathematics,
Associate, Center for Theoretical Studies IIT Kharagpur

Academic Background:

B.Sc. (Hons.) & MSc at University of Calcutta , Ph. D. IIT Guwahati

Appointments:

Assistant Professor, Department of Mathematics, IIT Kharagpur, 2015,
present Visiting Researcher, ICERM, Brown University, 2018 Visiting
Scientist, Simons Institute for the Theory of Computing, University of
California Berkeley, 2019 Assistant Professor, Centre for Systems
Science, IIT Jodhpur, 2009-2015 Visiting Scientist (Einstein Foundation
Research Fellow), Department of Mathematics, TU Berlin, 2013 Institute
Postdoctoral Fellow, Department of Electrical Engineering, IIT Bombay,
2009 Exchange PhD student (ISBRI Research Fellow), SAM, ETH
Zurich, 2008

Research Areas

- Applied Linear Algebra
- Theory of Complex Networks
- Quantum Information Theory
-

Awards and Accolades

- EFRF, TU Berlin, Germany
- ISBRI, ETH Zurich Switzerland
- Visiting Scientist UC Berkeley





AŚĪTĪ PRANĀM



Contents





24

Prof Safique Ahmad
IIT Indore, India



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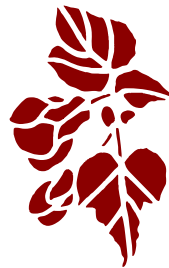
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Dr. Sk. Safique Ahmad Associate Professor, Indian Institute of Technology Indore

Dr. Ahmad was born and brought up in Bhadrak, Odisha. He did his B.Sc. from Bhadrak College and received his M.Sc. in Mathematics from Utkal University. Further, he received his M.Phil. from Ravenshaw University. He was awarded the Ph.D. degree in Mathematics from IIT Guwahati in 2008 with the help of GATE and SRF from CSIR. His thesis was concerned with “Pseudosepectra of Matrix pencils and their Applications in Perturbation Analysis of Eigenvalues and Eigen Decompositions”.

After his thesis submission he joined SERC, IISc. Bangalore as a Research Associate. While at IISc, he received NBHM Post Doctoral fellowship funded by DAE and German Post Doctoral Fellowship. He accepted the German Fellowship and visited the Institut für Mathematik, Universität Berlin, Germany as a Post Doctoral Fellow and on returning to IIT Indore, acted as an Associate Professor at the Discipline of Mathematics.

His research interest lies inside Numerical Linear Algebra and the study of logarithmic norm for matrix pencils which are associated with Differential Algebraic Equations (DAE), Differential Equations (DEs), and Stochastic Differential Equations (SDEs).



Contents





25

Prof Rafikul Alam
IIT Guwahati, India



Dr. Rafikul Alam, Professor, Department of Mathematics, Indian Institute of Technology Guwahati

Education:

- Ph.D., Department of Mathematics, Indian Institute of Technology Bombay, 1996
- M.Sc., Department of Mathematics, Indian Institute of Technology Kharagpur, 1991

Research Interest:

- Perturbation theory for linear operators
- Structured perturbation theory for matrices
- Nonlinear eigenvalue problems
- Multiparameter eigenvalue problems

Work experience:

- Head, Department of Mathematics, IIT Guwahati, January 2000 - January 2001, and March 2006 - March 2009
- Professor In-Charge, Alumni Affairs & External Relations, IIT Guwahati, October 2009 - August 2011

Awards and Fellowships:

- BOYSCAST Fellowship (2003) awarded by the DST, Govt. of India.
- Visiting Fellow, TIFR, Bangalore, June 1994





26

**Prof Somanath
Bhattacharya**
IIT Kharagpur, India



Dr. Somanath Bhattacharya is a Professor & Head, Department of Mathematics, Indian Institute of Technology, Kharagpur.

His research centres on Computational Fluid Dynamics, which involves theoretical/ analytical analysis and numerical mathematical modelling incorporating inherently non-linear effects. He has made important contributions in understanding several complicated fluid flow phenomena such as steady/ unsteady flow separation, vortex breakdown, fluid-body interactions, heat transfer, electro-hydro dynamics of rigid and soft colloids and transport phenomena in microfluidics. A significant part of his work focuses on the development of advanced numerical algorithms to compute nonlinear partial differential equations.

Dr. Somanath Bhattacharya has done several important studies on fluid-body interactions and its influence on heat transfer and vortex shedding behind the bluff body.

He has demonstrated unique mathematical and numerical models to study ionic and bio-molecular transport as well as ion separation and enhancement of electro-osmotic flows through micro- and nanochannels applicable to microfluidic devices. These models were supplemented by asymptotic analysis and experimental results. He has made significant contributions to analyse the non-linear effects on electrokinetic transport of charged rigid colloids, soft particles and polyelectrolytes in electrolyte or hydrogel medium. Electrokinetic transport phenomena involving hydrophobic surfaces and the inherent physical mechanisms are analysed.



His major awards and accolades are

- EPSRC, UK Visiting Professor
- HWK, Germany Fellowship
- Max Planck Society, Fellowship
- OSU, USA Visiting Scientist



Contents

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M





27

Dr Bhujanga Chakrabarti

Waikato Institute of Technology
New Zealand



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Dr Bhujanga is a highly experienced global power systems expert with 30+ years of experience in network planning, system operations, electricity market design, operation and optimisation, delivery of strategic and large projects on national scale, as an engineer, consultant, subject matter expert, lecturer and researcher.

He maintains close affiliation with global research and standard bodies (IEEE, CIGRE); and is currently Vice-Chair of Wellington Central section of IEEE PES and a senior member of IEEE.

A PhD in Operations Research (Canterbury, NZ) and he has post graduate degrees in electrical engineering and management from Australia and US, and over 30 publications in IEEE, conferences and journals (IJPES)

His formative years were in WBSEB, India, subsequent to which he went to Libya as an advisor from Indian government. He returned to India after a masters in the US before migrating to Australia and finally to NZ, where he has been playing a key role in Transpower for 20 years.



Contents





28

Prof Raymond Hon-fu Chan
City University of Hong Kong



A
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P
R
A
N
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M

Prof. Raymond Chan with a First Class Honors degree from the Chinese University of Hong Kong (CUHK) did his graduate study and took a PhD with a full fellowship from the Courant Institute of Mathematical Sciences at New York University.

Prof. Chan has taught at the University of Massachusetts at Amherst, at The University of Hong Kong and then at The Hong Kong University of Science and Technology before joining his Alma Mater City University of Hong Kong. He was the Associate Director of the Institute of Mathematical Sciences, the Associate Dean of Science (2004-2009) and the Head of the Mathematics Department and retired as an Emeritus Professor and became the founding Dean of the College of Science at City University of HK and is currently their Vice-President (Student Affairs).

Chan has published 150 journal papers and authored 3 books. His recent book "Financial Mathematics, Derivatives and Structured Products" SpringerLink is extremely popular. Chan was highly ranked in the ISI Science Citation List of Top Highly-Cited Mathematicians in the world (2001 List) and in the Numerical and Computational Mathematics field in the Stanford 2020 study of the world top 2% scientists. He won a Leslie Fox Prize for Numerical Analysis at Cambridge, UK, a Feng Kang Prize of Scientific Computing and a Morningside Award from Beijing, China and the 2011 Higher Education Outstanding Scientific Research Output Awards (First Prize) from the Ministry of Education in China. He was elected a Fellow of the US Society of Industrial and Applied Mathematicians (SIAM) in 2013 and a Fellow of American Mathematical Society (AMS) in 2021. Incidentally, Chan was the first and only one from an Asian university elected to SIAM Council since SIAM was established in 1952, and he served for two terms from 2015 to 2020.





Chan has served on the editorial boards of many journals, including: Asian Journal of Mathematics , Advances in Computational Mathematics, Journal of Mathematical Imaging and Vision, Journal of Scientific Computing, SIAM Journal on Imaging Sciences, and SIAM Journal on Scientific Computing (from 2000 to 2008). He presented over 190 invited conference talks in more than 20 countries, including plenary talks at SIAM Conference on Applied Linear Algebra and SIAM Conference on Imaging Science and is a prolific reviewer.



Contents

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P
R
A
N
Ā
M





29

Dr Partha P Chakrabarti
IIT Kharagpur, India



A
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Prof. PARTHA PRATIM CHAKRABARTI is the Director, IIT, Kharagpur & Professor, Department of Computer Science & Engineering.

He completed his B. Tech and PhD from the Dept of Computer Science & Engg, IIT, Kharagpur. which he joined as a faculty member and is currently a professor and the Director of the IIT Kharagpur. He was the Professor-in-Charge of the state-of-the-art VLSI Design Laboratory which he helped set up and has been the Dean of Sponsored Research and Industrial Consultancy at IIT Kharagpur and Head of the Advanced Technology Development Centre. He was also the co-Director of the strategic General Motors-IIT Kharagpur Collaborative Research Laboratory on Electronics, Controls and Software. He pioneered the development of the Incubation Programme at IIT Kharagpur. His areas of interest include Artificial Intelligence (AI), Formal Methods, CAD for VLSI & Embedded Systems, Fault Tolerance and Algorithm Design.

Professor Chakrabarti has made fundamental scientific contributions in the area of Artificial Intelligence and Automated Reasoning and has applied the techniques to solve important synthesis, optimization and verification problems especially in VLSI Design and Embedded Systems. His original contributions in Artificial Intelligence Search Methods include solving several important long-standing open problems. He was the first from India to publish in the best international journals of this area. Dr Chakrabarti's Search Algorithms are well referred, used and taught in standard courses in Artificial Intelligence. His algorithms for design and verification are now implemented in state-of-the-art industry standard tools of the leading companies worldwide. His work has been peer recognized by several scientific awards and best paper prizes. He has published more than 250 papers in international journals and conferences and supervised two dozen PhD students.





A Ś Ī T I P R A N Ā M

He has worked closely with Government as well as industry on various projects and has successfully led and completed large projects and programmes at national and international levels. He has obtained some of the highest industry-levels projects from leading companies in the world, set up state-of-the-art R&D units in Indian academia and has mentored students in industrially relevant research and entrepreneurship. These include high-valued international projects from Volkswagen Foundation, Intel Corporation, National Semiconductors, Synopsys, General Motors, Google and Xerox, Indo-German, Indo-US, Indo-Brazil and IndoSwiss collaborations, enabling setting up key research centres in India

Dr Chakrabarti received the President of India Gold Medal, the INSA Young Scientist Award, Anil K Bose Award, INAE Young Engineers Award and the Swarna Jayanti Fellowship, Shanti Swarup Bhatnagar Prize, INAE Visweswarya Chair Professorship, J.C. Bose Fellowship (2013) and many other awards. He has been elected a Fellow of the Indian National Science Academy, New Delhi and the Indian Academy of Science, Bangalore, Indian National Academy of Engineering and the West Bengal Academy of Science & Technology



Contents





30

Prof Rajeeb Dey
NIT Silchar, India

Dr. Rajeeb Dey is an Assistant Professor with the Department of Electrical Engineering, National Institute Of Technology Silchar. Prof. Dey has authored and co-authored multiple peer-reviewed scientific papers and presented works at many national and International conferences and has received acclaimed recognition from honourable subject experts around the world. He is actively associated with different societies and academies. Dr. Dey's academic career is decorated with several reputed awards and funding. Dr. Rajeeb Dey research interests include Computational intelligence, computation in communication, power system & power electronics dynamics.

Biographical Sketch

After a Diploma in Electrical Engineering and after serving as a service engineer in industry and in Govt. Polytechnic Silchar Prof. Dey studied for B.Tech in Electrical Engineering from NERIST, Arunachal Pradesh, served Sikkim Manipal Institute of Technology, Majitar, Sikkim and, studied M.Tech in Control System Engineering from I.I.T Kharagpur,, completed a Ph.D from Electrical Engineering Department, Jadavpur University, Kolkata,, joined the Electrical Engineering department NIT Silchar in 2014. Awarded postdoctoral fellowship by TWAS (The world academy of sciences, Italy) in the year 2014.

Awards/Achievements

University First Rank in B.Tech (Electrical Engineering). Awarded Postdoc fellowship by TWAS (The world academy of Science, Italy) in 2014. Awarded National Associateship by Department of Bio-Technology, Govt. of India in 2012 (worked on Artificial Pancreas project in IISc Bangalore). Selected as Editor for International Journal for Advanced Intelligence Paradigm" (Inderscience Publisher). Selected as Senior Member IEEE in 2013. Elected as ExeCom Member IEEE CSS-IMS joint Chapter, Kolkata Section in 2014. Publication Chair IEEE CMI 2016. ExeCom Member of ACDOS in 2016.



Regular reviewer of (SCI/SCIE journals) and various IEEE hosted/sponsored conferences since 2010. Invited resource person for UGC sponsored course on Robotics in EE Dept, Jadavpur University, 2009.

Research Interest

Computational intelligence, computation in communication, power system & power electronics dynamics



Contents

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R
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M



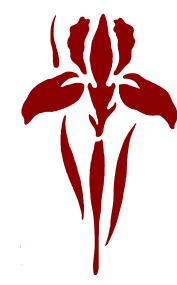


31

Prof Rentsen Enkhbat
National University of Mongolia



- **R**entsen Enkhbat is a Professor of Mathematics at the Business School of National University of Mongolia.
- Researcher at the Institute of Mathematics of National University of Mongolia.
- He received his Bachelor, Master and Ph.D degrees from Irkutsk State University (Russia) in Applied Mathematics in 1980 and 1990, respectively. He received also his Master degree in Economics from National University of Mongolia in 1998 and Sc.D degree from Mongolian Academy of Sciences in 2003.
- His awards include prize of the Third World and Mongolian Academy of Sciences, award of Consortium of Mongolian Higher Education Universities, and Government Medal.
- He is the author and co-author 16 books and the editor of 17 books. He has written more than 100 scientific papers. His recent research interest lies in Global Optimization, Optimal Control and Game theory.
- He has held visiting appointments at the University of Massachusetts, Kyoto University, Ibaraki University, Humboldt University Berlin, University of Florida, Korea Institute for Advanced Study, Inje University(Korea), Curtin University(Australia), Littoral University(France).
- He is a member of American and Mongolian Mathematical Societies, and USA and Mongolian Chess Federations. He is a Mongolian National Chess Master.



Contents

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P
R
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N
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M





32

Prof Daniel W C Ho
City University of Hong Kong



A
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Prof. Daniel W. C., Associate Dean (Internationalization), City University of Hong Kong. FIEEE, Chair Professor

Prof. Daniel W. C. Ho received a first class honour in BSc, MSc and PhD degrees in mathematics from the University of Salford, Greater Manchester, UK. Then, he was a Research Fellow in Industrial Control Unit, University of Strathclyde, Glasgow, UK. He joined City University of Hong Kong and is currently a Chair Professor of Applied Mathematics and the Associate Dean (Internationalization) with College of Science.

Prof. Ho is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) from 2017. He is also a Chang Jiang Chair Professor, awarded by the Ministry of Education, China in 2012. He is named as Highly Cited Researcher in Engineering by Clarivate Analytics from 2014 for seven consecutive years. Prof. Ho is a Subject editor of Journal of Franklin Institute, Associate Editor of IEEE Transactions on Neural Networks and Learning Systems, Neural Networks, Asian Journal of Control, International Journal of Automation and Computing, Cogent Engineering and a member of Editorial board of IET Control Theory & Applications, Systems Science and Control Engineering. His current research interests include control theory, estimation and filtering theory, complex dynamical distributed networks, multi-agent networks, nonlinear singular systems and stochastic systems

Awards and Honours

- Recipient of "The Best Paper Award" from The 8th Asian Control Conference (ASCC 2011), Title: "Two-targets tracking problems in sensor networks with partial information transmission"
- Guest Professor of East China University of Science and Technology,, Shanghai, China





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- Chang Jiang Chair Professor, Nanjing University of Science and Technology, China. (2012-2015)
- Awarded by the Ministry of Education, China
- Highly Cited Researchers in Engineering several times, published by Clarivate Analytics
- Fellow of the Institute of Electrical and Electronics Engineers (IEEE) recognizing his contributions to stability and control for stochastic systems.
- Teaching Excellence Awards (TEAs) for 'Innovative Teaching and Learning through Knowledge Transformation for Global Challenges', (CityU, Jun 2020) College of Science news, CityU news, CityU Today



Contents





33

Prof James Lam
The University of Hong Kong



香港大學

THE UNIVERSITY OF HONG KONG



Professor James Lam received a BSc (1st Hons.) degree in Mechanical Engineering from the University of Manchester in 1983, and was awarded the Ashbury Scholarship, the A.H. Gibson Prize, and the H. Wright Baker Prize for his academic performance. He later obtained the MPhil and PhD degrees from the University of Cambridge. He is a Croucher Scholar, Croucher Fellow, Distinguished Visiting Fellow of the Royal Academy of Engineering, and Cheung Kong Chair Professor. Prior to joining the University of Hong Kong in 1993 where he is now Chair Professor of Control Engineering, he was lecturer at the City University of Hong Kong and the University of Melbourne.

Professor Lam is the Editor-in-Chief of IET Control Theory and Applications and Journal of The Franklin Institute, Subject Editor of Journal of Sound and Vibration, Editor of Asian Journal of Control, Senior Editor of Cogent Engineering and Associate Editor of Automatica, International Journal of Systems Science, Multidimensional Systems and Signal Processing. His research interests include model reduction, robust synthesis, delay, singular systems, stochastic systems, multidimensional systems, positive systems, networked control systems, UAVs and vibration control.



Contents

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P
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M





34

Prof Wah June Leong
University Putra Malaysia



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Prof Wah June Leong, University Putra Malaysia

Education:

Wah June Leong completed his PhD from University Putra Malaysia, Serdang, Selangor in the year 2002.

Career:

- Wah June Leong is a Professor in the Department of Mathematics at University Putra Malaysia, since 2004 and an Editor of International Journal Industrial Mathematics.
- He also worked as Postdoctoral fellow at Chinese Academy of Sciences, Beijing, during 2008 to 2009.

Achievements:

- Wah June Leong is a Member of Pacific Optimization Research Activity Group (Hong Kong).
- Wah June Leong has published 119 papers in Mathematics.
 - Spectral proximal method for solving large scale sparse optimization – Jan 2021
 - Diagonal quasi-Newton methods via least change updating principle with weighted Frobenius norm – March 2021.



Contents





35

Prof Debasattam Pal

IIT Bombay, India



Prof Debasattam Pal, Associate Professor, IIT Bombay

Academic Background

- B.E. (Department Topper) in Electrical Engineering, Jadavpur University, 2005
- M.Tech. (Institute Topper) in Electrical Engineering from IIT Bombay, 2007
- Ph.D. (Best Thesis Awardee) in Electrical Engineering from IIT Bombay, 2012

Experience

- Assistant Professor at IIT Guwahati, at IIT Bombay
- Associate Professor at IIT Bombay

Editorial Responsibilities

- Associate Editor for Mathematics of Control, Signals and Systems (MCSS)
- Associate Editor for Indian Control Conference (ICC)

Research Interests

- Distributed parameter systems
- Algebraic analysis
- Optimal control
- Dissipative systems

Honors and Awards

1. DST-INSPIRE faculty scheme award, Phase II, 2014.
2. Award for excellence in Ph.D. thesis work for the year 2011-2013, IIT Bombay.

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3. Prof G.N. Revankar prize for the most outstanding M.Tech. student of the year 2007, IIT Bombay.
4. Shri K.M. Doshi charitable fund prize for the most outstanding M.Tech. student of the year 2007 in EE department, IIT Bombay.
5. Shubha and Anand Talwalkar memorial award for standing first in M.Tech. in EE department in the year 2007, IIT Bombay.
6. University Bronze medal for standing first in B.E.E., Jadavpur University, 2005.
7. Stood 3rd in West Bengal Higher Secondary examination (10+2), 2001.
8. Stood 17th in West Bengal Madhyamik examination (10), 1999.



Contents





36

Prof Harish K Pillai
IIT Bombay, India



Prof Harish K. Pillai, Department of Electrical Engineering, IIT Bombay,
Powai Mumbai

Qualifications

- B. Tech in Electrical Engg from IIT Kharagpur
- M. Tech in Systems and Control from IIT Bombay
- PhD in Electrical Engg from IIT Bombay

Research Interests

- Control theory
- Systems theory
- Multidimensional systems
- Numerical and computational methods
- Coding theory
- Optimization techniques
- Electromagnetics

Work Experience

- Postdoc at IWI, University of Groningen, The Netherlands
- Postdoc at University of Southampton, UK
- Assistant Professor, Dept of Electrical Engg, IIT Bombay
- Associate Professor, Dept of Electrical Engg, IIT Bombay





37

Prof Aurobinda Routray
IIT Kharagpur, India



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Prof Aurobinda Routray has 14 years of academics from N.I.T. Rourkela, MTech from IIT Kanpur, PhD from Sambalpur University and PostDoc from Purdue University. He has spent around 22 years in research and academics. He has 7 patents in his name and has got several awards and recognition from Industry and Academics.

Education

- B.Sc Engineering N.I.T. Rourkela 1989
- M. Tech. Indian Institute of Technology, Kanpur 1991
- Ph.D Sambalpur University 1999
- Post Doc Purdue University 2003

Research and teaching experience

- Research Engineer N.I.T. Rourkela 1 years
- Lecturer N.I.T. Rourkela 7 years
- Assistant Professor Indian Institute of Technology, Kharagpur 4 years
- BOYSCAST Fellow Purdue University, USA 10 months
- Associate Professor I.I.T. Kharagpur 7 years
- Professor I.I.T. Kharagpur 3 years

Patents

1. A System for Real Time Assessment of Level of Alertness in the year 2014, Present Status: Granted
2. An Electromagnetic Device based system for Fault Detection and Identification in Rotating Mechanical Components in the year 2005, Present Status: Filed
3. Event-Driven Data Mining Method for Improving Fault Code Settings and Isolating Faults : US patent in the year 2011, Present Status: Granted
4. A Real-Time System for Object Detection And Recognition With Machine Learning in the year 2014, Present Status: Granted





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5. Real-time On Board Driver Drowsiness Monitoring System in the year 2013, Present Status: Granted
6. An Information-Theoretic Methodology To Predict Lithological Properties Using Seismic Attributes And Well Log Data in the year 2014, Present Status: Filed
7. A Real-Time Embedded System for Spark/Arc Detection in Low Voltage Electrical Distribution System in the year 2014, Present Status: Granted

Awards and honours

- Abstract Accepted at NASA HypIRI Science Symposium 2015, Goddard USA awarded by NASA Goddard Space Centre 2015
- BioEye 2015 Competition awarded by IEEE 2015
- Samsung Global Research Outreach (GRO) 2012-13 Award awarded by Samsung 2012
- BOYSCAST Fellow Award awarded by Department of Science and Technology 2003
- Young Scientist Award awarded by Orissa Bigyan Academy 2001

Membership

- IEEE USA 2011
- SIAM USA 2011



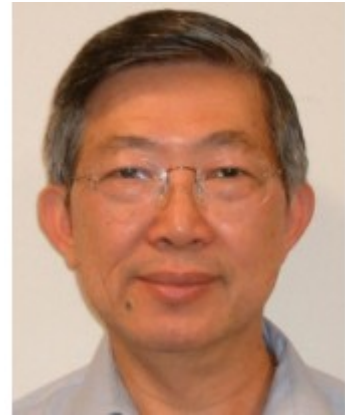
Contents





38

Prof Kok Lay Teo
Curtin University, Australia



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Prof Kok Lay Teo, Distinguished Emeritus Professor, School of Elec Eng, Comp and Math Sci (EECMS), Bentley Campus

Education

Kok Lay Teo (Senior Member, IEEE) received the B.Sc. degree in telecommunications engineering from Ngee Ann Technical College, Singapore, the M.A.Sc. and Ph.D. degrees in electrical engineering from the University of Ottawa, Ottawa, ON, Canada.

Positions held

He was with the Department of Applied Mathematics, University of New South Wales, Sydney, NSW, Australia, Department of Industrial and Systems Engineering, National University of Singapore, Singapore, and Department of Mathematics, The University of Western Australia, Crawley, WA, Australia. After he joined the Department of Mathematics and Statistics, Curtin University of Technology, Bentley, WA, Australia, as a Professor he then took up the position of a Chair Professor of Applied Mathematics and the Head of the Department of Applied Mathematics, Hong Kong Polytechnic University, Hong Kong. Later, he was a Professor and the Head of the Department of Mathematics and Statistics with Curtin University. From 2011 to 2019, he was a John Curtin Distinguished Professor of Curtin University. He retired from Curtin University in 2019. He is currently a Professor with School of Mathematical Sciences, Sunway University, and also with the School of Management Science and Engineering, Tianjin University of Finance and Economics. He has authored/coauthored 5 books and more than 350 journal papers.

Software developed

He has a software package, MISER3.3, for solving general constrained -





optimal control problems. His research interests include both the theoretical and practical aspects of optimal control and optimization, and their practical applications such as in signal processing in telecommunications, and financial portfolio optimization.,

Editorial positions

Dr. Teo's editorial positions include serving as the Editor-in-Chief for the Journal of Industrial and Management Optimization, and Numerical Algebra, Control and Optimization, and as a member of Editorial Board of Automatica, Journal of Global Optimization, Journal of Optimization Theory and Applications, Optimization and Engineering, Discrete and Continuous Dynamic Systems, Optimization Letters, Differential Equations and Dynamical Systems, and Applied Mathematical Modeling.



Contents

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P
R
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N
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M





39

Prof Krzysztof Galkowski
Nicolaus Copernicus University in Torun,
Poland



Prof. Krzysztof Galkowski (Member, IEEE) is currently a professor of technical sciences with the University of Zielona Gora and also with Nicolaus Copernicus University in Torun, Poland.

His major research interests lie in the areas of multidimensional (nD) systems and control theory and applications for repetitive processes, including application to iterative learning control with experimental validation.

He has authored over 100 articles in leading peer reviewed journals and over 200 papers in the proceedings of major international conferences.

He is also an Associate Editor of IET Control Theory and Applications and a member of the editorial boards of the International Journal of Control and Multidimensional Systems and Signal Processing. He is also a co-author/editor of four research monographs/books and also a Guest Editor of special issues in leading international journals, including the International Journal of Control, Multidimensional Systems and Signal Processing and the Asian Journal of Control. He is also a Co-Founder of the international workshops on multidimensional systems (NDS).



Contents

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M





40

Prof Mark Liberzon
Moscow State Aviation Technological
University, Russia



Dr. Mark Liberzon, Vice President, Moscow State Aviation Technological University. Dr. Mark Liberzon, is the Head of Department of Analytical Mechanics at Moscow State University and the Vice President of Moscow State Aviation Technological University.

He pursued his educational qualifications during 1965 to 1971 from Moscow State University, College of Mechanics and Mathematics, Department of Applied Mechanics. Later, Prof. Liberzon graduated from Moscow State University with M.S. in 1971, Ph.D in 1981 and Doctorate in Physics and Maths in 1989.

Setting off with professional life, as Assistant Professor at Moscow State University, Prof. Liberzon succeeded as the Head of Department of Analytical Mechanics at Moscow State University and Vice President of Moscow State Aviation Technological University.

The Research directions of Prof. Liberzon include the Dynamical Systems, Control Theory, Ordinary Differential Equations, and Oscillation Theory - stability, modelling, and applications

Prof. Liberzon's Public Activities

1. The Founder and President of the International Trustee Fund of the Moscow State Aviation Technological University;
2. President of Jury of the International Math & Phys Competition for Children (annual);
3. Organizer of the US-Russia Investment Symposium (annual)
4. Organizer of the World Russian Forum (annual) and
5. Founder and Vice President of the Council of Russian Academies



Awards received

1. Honored Scientist of the Russian Federation,
2. Prize of the President of the Russian Federation, International Engineering Academy's Gold Medal and
3. Federal Russian Award and Medal "For International Collaboration in Space Exploration", along with several International and Russian Prizes and Diplomas

Membership in professional societies

A member of the International Informatization Academy, Prof. Liberzon serves as Vice President of Russian Engineering Academy. His memberships and contributions can be acknowledged with the Russian Space Academy, Moscow Mathematical Society, American Mathematical Society and the Charter Member of the Order of International Fellowship (Cambridge, England)



Contents





41

**Prof Mohamed A
Ramadan**
Menoufia University, Egypt



جامعة المنوفية
Menoufia University
Beacon of Knowledge in The Heart of Delta



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Prof Mohamed A Ramadan, Prof. of Mathematics (Numerical Analysis)
Faculty of Science, Menoufia University, Shebin El-Kom, Egypt



Contents





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AŚĪTI PRANĀM

Pranams to
Prof Biswa Nath Datta

Distinguished Research Professor
Northern Illinois University, USA

on his 80th birthday

by his
family, friends, colleagues, students,
admirers and well wishers
from the world over

01 JULY 2021

Vidya Academy of Science and Technology
Thalakkottukara, Thrissur – 680501, Kerala, India